

Atty. Dkt. No. 039363-1202

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:

Ibrahim et al.

Title:

PYK2 CRYSTAL STRUCTURE

AND USES

Appl. No.:

10/789,818

Filing Date:

02/27/2004

Examiner:

Nashed

Art Unit:

1646

Confirmation

1656

Number:

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

Mail Stop Amendment-IDS Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

Submitted herewith on Form PTO/SB/08 is a listing of documents known to Applicants in order to comply with Applicants' duty of disclosure pursuant to 37 CFR §1.56.

A copy of each non-U.S. patent document and each non-patent document is being submitted to comply with the provisions of 37 CFR §1.97 and §1.98.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date below.

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(Signature)

(Date of Deposit)

Atty. Dkt. No. 039363-1202

ate or otherwise remove as a competent reference any document which is determined to be a prima facie art reference against the claims of the present application.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b), before the mailing date of the first Office Action on the merits.

RELEVANCE OF EACH DOCUMENT

All of the documents are in English.

Applicants respectfully request that each listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

Although Applicant believes that no fee is required for this Request, the Commissioner is hereby authorized to charge any additional fees which may be required for this Request to Deposit Account No. 50-0872.

Respectfully submitted,

FOLEY & LARDNER LLP

Telephone:

Customer Number: 30542 (858) 847-6767

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(858) 792-6773

Richard J. Warburg Attorney for Applicant Registration No. 32,327

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ork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control

Spumber. CA HAVE Substitute for form 1449B/PTO Complete if Known INFORMATION DISCLOSURE **Application Number** 10/664,421 STATEMENT BY APPLICANT **Filing Date** 09/16/2003 **First Named Inventor** Ryan Bremer Group Art Unit 1656 (use as many sheets as necessary) **Examiner Name** Nashed 1 of 4 Sheet Attorney Docket Number 039363-0703

	U.S. PATENT DOCUMENTS								
		U.S. Patent De	ocument		Date of Publication of	Pages, Columns, Lines, Where Relevant			
	Cite No. ¹	Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear			
	A1	20010008765		Shinoki et al.	07/19/2001				
	A2	20010012537		Anderson et al.	08/09/2001				
	A3	20010014448		Chappa et al.	08/16/2001				
	A4	20010014449		Nerenberg et al.	08/16/2001				
	A5	20010016322		Caren et al.	08/23/2001				
	A6	20010018642		Balaban et al.	08/30/2001				
	A7	20010019827		Dawson et al.	09/06/2001	West .			
	A8	6100254		Budde et al.	08/08/2000				
	A9	6197495		Qui et al.	03/06/2001				

			UNPUBLISH	HED U.S. PATENT APPLICATION	DOCUMENTS		
Examiner	Cito	U.S. Patent Application Document		Name of Patentee or Applicant of	Filing Date of	Pages, Columns, Lines, Where Relevant	
Initials*	Cite No. ¹	Serial Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. ¹	Fe Office	oreign Patent D 3 Number ⁴	Oocument Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T [€]
	A10	WO	99/26966		The Regents of the University of California	06-03-1999		
	A11	WO	01/58951		Stichting Voor de Technische Wetenschappen	08-16-2001		
	A12	wo	02/24722		Prochon Biotech Ltd.	03-28-2002		

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶

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Examiner Signature	Date Considered	

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¹ Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

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	Substitute for	form 1449E	3/PTO	Complete if Known		
	INFORMATIO	N DISCLO	SURE	Application Number	10/664,421	
	STATEMENT	BY APPL	ICANT	Filing Date	09/16/2003	
				First Named Inventor	Ryan Bremer	
				Group Art Unit	1656	
	(use as many si	heets as ne	ecessary)	Examiner Name	Nashed	
Sheet	2	of	4	Attorney Docket Number	039363-0703	

		NON PATENT LITERATURE DOCUMENTS						
Examiner Ci Initials* No								
A13	A13	BOEHM, et al., "Novel Inhibitors of DNA Gyrase: 3D Structure Based Biased Needle Screening, Hit Validation by Biophysical Methods, and 3D Guided Optimization. A Promising Alternative to Random Screening," J. Med. Chem. 43:2664-2674 (2000)						
	A14	BOHACEK, et al., "Multiple Highly Diverse Structures Complementary to Enzyme Binding Sites: Results of Extensive Application of a de Novo Design Method Incorporating Combinatorial Growth," J. Am. Chem. Soc. 116:5560-5571 (1994)						
	A15	CHONG, et al., "Molecular dynamics and free-energy calculations applied to affinity maturation in antibody 48G7," PNAS 96:14330-14335 (1999)						
	A16	CORNELL, et al., "A Second Generation Force Field for the Simulation of Proteins, Nucleic Acids, and Organic Molecules," J. Am. Chem. Soc. 117:5179-5197 (1995)						
	A17	DONINI and KOLLMAN, "Calculation and Prediction of Binding Free Energies for the Matrix Metalloproteinases," <i>J. Med. Chem.</i> 43:4180-4188 (2000)						
	A18	DOWNS and WILLETT, "Similarity Searching and Clustering of Chemical-Structure Databases Using Molecular Property Data," J. Chem. Inf. Comput. Sci. 34:1094-1102 (1994)						
	A19	ELCOCK, Realistic modeling of the denatured states of proteins allows accurate calculations of the pH dependence of protein stability. J. Mol. Biol., 294:1051-1062, (1999).						
•	A20	FELDER, "The Challenge of Preparing and Testing Combinatorial Compound Libraries in the Fast Lane, at the Front End of Drug Development," Chimia 48:531-541 (1994)						
	A21	GILLILAND and LADNER, Crystallization of biological macromolecules for X-ray diffraction studies. Current Opinion in Structural Biology, 6:595-603, 1996.						
	A22	JARVIS and PATRICK, "Clustering Using a Similarity Measure Based on Shared Near Neighbors," IEEE Transactions on Computers 11:1025-1034 (1973)						
	A23	KE and DOUDNA, Crystallization of RNA and RNA-protein complexes. Methods, 34:408-414, (2004).						
	A24	MASSOVA and KOLLMAN, "Computational Alanine Scanning to Probe Protein – Protein Interactions: A Novel Approach to Evaluate Binding Free Energies," <i>Journ. of Amer. Chem. Soc.</i> 121(36):8133-8143 (1999)						

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	INFORMATIO	N DISCLO	SURE	Application Number	10/664,421		
	STATEMENT	BY APPLI	CANT	Filing Date	09/16/2003		
				First Named Inventor	Ryan Bremer		
				Group Art Unit	1656		
	(use as many sh	eets as ne	cessary)	Examiner Name	Nashed		
Sheet	3	of	4	Attorney Docket Number	039363-0703		

	NON PATENT LITERATURE DOCUMENTS						
Cite No.1							
A25	MCGOVERN, et al., "A Common Mechanism Underlying Promiscuous Inhibitors from Virtual and High-Throughput Screening," J. Med. Chem. 45:1712-1722 (2002)						
A26	OBRECHT, et al., "Solid-Supported Combinatorial and Parallel Synthesis of Small-Molecular-Weight Compound Libraries," Linker Mol. & Cleav. Strat. P. 85.						
A27	OWEN, et al., "Two Structures of the catalytic domain of phosphorylase kinase: an active protein kinase complexed with substrate analogue and product," Curr. Biol. Ltd. 3:467-482 (1995)						
A28	PEARLMAN and CHARIFSON, "Are Free Energy Calculations Useful in Practice? A Comparison with Rapid Scoring Functions for the p38 MAP Kinase Protein System," <i>J. Med. Chem.</i> 44:3417-3423 (2001)						
A29	RIPKA, et al., "Aspartic Protease Inhibitors Designed from Computer-Generated Templates Bind as Predicted," Org. Lett. 15:2309-2312 (2001)						
A30	WIENCEK, New strategies for protein crystallization growth. Ann.Rev.Biomed.Eng., 1:505-534, (1999).						
A31	WILLETT, "Chemical Similarity Searching," J. Chem. Inf. Comput. Sci. 38:983-996 (1998)						
	A25 A26 A27 A28 A30	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published. A25 MCGOVERN, et al., "A Common Mechanism Underlying Promiscuous Inhibitors from Virtual and High-Throughput Screening," J. Med. Chem. 45:1712-1722 (2002) A26 OBRECHT, et al., "Solid-Supported Combinatorial and Parallel Synthesis of Small-Molecular-Weight Compound Libraries," Linker Mol. & Cleav. Strat. P. 85. A27 OWEN, et al., "Two Structures of the catalytic domain of phosphorylase kinase: an active protein kinase complexed with substrate analogue and product," Curr. Biol. Ltd. 3:467-482 (1995) A28 PEARLMAN and CHARIFSON, "Are Free Energy Calculations Useful in Practice? A Comparison with Rapid Scoring Functions for the p38 MAP Kinase Protein System," J. Med. Chem. 44:3417-3423 (2001) A29 RIPKA, et al., "Aspartic Protease Inhibitors Designed from Computer-Generated Templates Bind as Predicted," Org. Lett. 15:2309-2312 (2001) A30 WIENCEK, New strategies for protein crystallization growth. Ann.Rev.Biomed.Eng., 1:505-534, (1999).					

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•	STATEMEN	IT BY APPLI	CANT	Filing Date	09/16/2003	
				First Named Inventor	Ryan Bremer	
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(use as many sheets as necessary)				Examiner Name	Nashed	
Sheet	4	of	4	Attorney Docket Number	039363-0703	

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Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶		
	A32	YANG et al., Peptide analogs from E-cadherin with different calcium-binding affinities. J. Peptide Research, 55:203-215, 2000.			

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